FOSTER | **SCHOOL OF**
BUSINESS
UNIVERSITY *of* WASHINGTON

Accounting 579A

Alphanomics: Active Investing in Equity Markets

10:30am-12:20pm, Monday and Wednesday
Spring 2022
(Course Syllabus - Ver. 03/21/2022)

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Course Overview

The course is structured as a primer on active investing in public equity markets. Our starting premise is that, when information is costly to acquire and analyze, equilibrium prices cannot fully incorporate all value-relevant information. In reality, stock prices are established through a process of risky information-based arbitrage. Together we will examine the evidence on the types of the information that have proven useful in identifying attractive companies and making investment decisions in public markets.

The main goals of the course are to develop students' ability to: (1) assess the value and worth of individual firms under different assumptions, (2) identify attractive investment opportunities with quantitative stock screens, and (3) manage a portfolio of publicly traded stocks. Specific topics covered include: an overall framework for active investing, financial ratio analysis, cash flow analysis, equity valuation, earnings quality evaluation, fraud detection, quantitative stock selection, short-selling mechanics, trading fundamentals, and basic portfolio management.

This course is designed for students with a strong interest in public equity investing, either personal or professional. It should be particularly helpful to those with career aspirations in

asset management, equity research, private equity, and financial consulting. Prior stock investing experience or a class in Financial Statement Analysis (e.g., ACCT510) would be helpful. However, this course is designed to be accessible to anyone who has completed the equivalent of the core MBA-level training in economics, accounting, and finance. Newbies to stock investing are welcomed.

This is a hands-on course with an emphasis on experiential learning. Students will use a variety of analytical tools to evaluate individual companies, design stock screens, conduct back-tests, and assess portfolio risk. We will also review a number of academic research studies and build these insights into our investment process. There is no final exam. However, there will be six individual cases and a final group project. Much of the content is quantitative in nature and students can expect a moderate to heavy workload.

Course Material

• Web Resources:

    S&P Capital IQ: https://capitaliq.com

    Stock Selection: https://www.portfolio123.com

    Risk Management: https://www.barraone.com/araneae/app

• Required texts:

What works on Wall Street, Fourth Edition, by James P. O'Shaughnessy (McGraw-Hill, 2011). *Hereafter referred to as* ***"WWOW"***.

The Little Book that Still Beats the Market, Joel Greenblatt (Wiley, 2010). *Hereafter referred to as* *"****Greenblatt****"*.

• Supplementary texts: (these are good references for anyone interested in going deeper on the subjects covered in this course)

Alphanomics: The informational underpinnings of market efficiency, by Charles M. C. Lee and Eric So, 2015 (Foundations and Trends in Accounting Vol. 9, Nos 2-3, 59-258). *A digital copy is free to anyone registered for this course, and can be downloaded from Canvas, under "Modules -> Tool Box -> Other Resources."*

Quantitative Value, by Wesley R. Gray and Tobias E. Carlisle (Wiley, 2013). *Hereafter referred to as* *"****QV****"*.

Efficiently Inefficient: How smart money invests and market prices are determined, by L. H. Pedersen (Princeton University Press, 2015).

Business Analysis and Valuation: Using Financial Statements, Fifth Edition, by K. Palepu and P. Healy (Cengage India, 2015).

Investment Strategies of Hedge Funds, by F. Stefanini (J. Wiley & Sons, 2010).

Active Portfolio Management, Second Edition, by R. C. Grinold and R. N. Kahn (McGraw-Hill, 1999).

Course Design

The course format is a combination of lectures, hands-on exercises, and case studies. The lectures introduce new theory, summarize academic research, or teach new skills; the cases & exercises apply these concepts/skills to live data.

Class Participation	20%
Individual Assignments	40%
Final group project	40%

Class Participation: Class attendance is mandatory. This part of your grade is based on punctual attendance and thoughtful engagement. Our classes will be 1 hour and 50 minutes in duration. Course TA will monitor attendance and participation. Students will "check in" at the start of class. Under normal conditions, a late penalty is assessed for joining 5 or more minutes after a class begins.

Participation is not based on "volume" of engagement or on getting the "right" answer. Rather, we will be looking for good questions, well-reasoned viewpoints, and other signs of thoughtful engagement that enrich the classroom experience for everyone.

Each student is allowed one excused absence per quarter, provided notice is given to the instructor and/or TA in advance. Students are still responsible for missed content and absences beyond one class will incur a penalty. Class sessions will be taped, but the tapes will only be made available by individual request, generally to students who had an excused absence.

Most classes involve some pre-assignment, often in the form of videos. *It is essential that you do these pre-assignments, as the content is assumed during class.* You need not understand every detail in the pre-assignment, but you should cover the material beforehand. Cold calling is fair game.

Individual Assignments: Students will receive six individual assignments. Top five out of six case grades count towards your final course grade. Each assignment will require you to prepare an executive summary of your findings (typically one page in length). You are encouraged to work in groups as you conduct the detailed analyses, and you may share some of the supporting tables, but *the one-page executive summary must be written individually, in each student's own words.*

Assignments must be submitted via Canvas *by 10:30 am on the due date* (note: this is *before* the start of the class session). If you must miss a class, your assignment will still be

accepted if it is posted to Canvas by 10:30 am. All assignments are graded out of 10. Late penalties will be assessed; this penalty will increase depending on lateness and whether the solution has already been discussed in class. Please note that the material in these individual cases builds on each other, so it is essential that you keep up with these assignments. The pace of the course is such that falling behind and then trying to catch up later, is difficult.

Final Group Project: 40% of your grade will be based on your final group project. Groups should consist of three to five members. Detailed information on this final project is provided at the end of the syllabus.

Group Formation Policy

It will be helpful to form working groups as you do your case assignments. Also, the final project must be done in groups of 3 to 5 students. In prior iterations of this course, some of these groups were stacked with students that have experience in investing while others were full of newcomers and novices. I have considered randomly assigning students to groups but felt that would be too draconian.

Instead, I have implemented an "Adopt a Newbie" or AAN rule. Under this rule, at least 30% of the membership of each group must consist of Newbies. For this purpose, a Newbie is someone who has never worked in financial services (including financial consulting, private equity, asset management, investment banking, equity or fixed income research, venture capital, or a Corporate M&A department). In a 3-person group, you only need one Newbie; in 4- or 5-person groups, you will need two Newbies.

I realize this is an imperfect way to distinguish between Pros and Novices, but I trust you will appreciate the spirit of the rule. The bottom line is please form groups that contain some inexperienced investors. Get to know some new people and help make the world a better place. If there aren't enough Newbies to go around (I doubt that will happen), let me know and I can amend the rules.

To help facilitate group formation, I will be posting an interactive spreadsheet that allows you to self-identify by experience, find others, and sign up into groups. You should check this spreadsheet as soon as is practicable and self-identify as to your experience level.

Academic Integrity

By being a student in this class, you acknowledge that you are a member of a learning community in the Foster School of Business that is committed to the highest academic standards. As a member of this community, you agree to refrain from cheating, attempting to cheat, plagiarism, lying, and stealing in relation to academic work.

For this course, it means group discussions of cases are encouraged, but the one-page summary solutions are to be written up individually. In addition, students should

appropriately reference/cite any source material they use in completing their assignments (including sell-side analyst reports and key internet sources).

Students with Documented Disabilities

Washington state law requires that UW develop a policy for accommodation of student absences or significant hardship due to reasons of faith or conscience, or for organized religious activities. The UW's policy, including more information about how to request an accommodation, is available at Religious Accommodations Policy:

https://registrar.washington.edu/staffandfaculty/religious-accommodations-policy/

Accommodations must be requested within the first two weeks of this course using the Religious Accommodations Request form:

https://registrar.washington.edu/students/religious-accommodations-request

A few final words before we start...

This is a hands-on course designed around experiential learning, so it will frankly be a lot of work. The newness of the professor to the UW environment may further complicate our lives. So, I am going to need you guys to be even more tuned in than usual. That includes providing regular feedback to the professor and helping each other (particularly Newbies in your group) to understand/process the class material.

One important tip I can give you right away is that the class material builds up quickly, so the key to success in this class is to keep up with the weekly assignments. You *must* do the pre-class assignments before each class, and you *need* to do your best to submit the written cases on time. Fulfilling these two commitments will make for (relatively) painless learning for you, and much better domestic relationships for me. The workload for this class may seem heavy at time, but it has been time-tested over the years, and an astonishing proportion of prior students have survived.

[Note in particular, expect the April 20-27 period to be a bit tough because you will have a case due that Monday (April 25) and another due Wednesday (April 27). These are two of the easier cases, so you should be fine, but I wanted to give you an early heads-up. Thank you for your cooperation.]

That is all for now. Please do not hesitate to contact me, or your TA, if you have questions about anything. That applies before classes start and continues to apply throughout the term. Welcome aboard, buckle up, and I hope you enjoy the ride!

ACCTG 579A
Assignment Sheet

<u>**Note:**</u> The cases and assignments marked by **bold characters** are required for hand-in. The summary memo for these six cases <u>must be written individually</u> and posted to Canvas <u>by 10:30 am on the due date</u>. Late submissions are subject to a grade penalty. Top five out of six case grades count towards your final course grade.

<u>Class</u>	<u>Date</u>	<u>Topic</u>	<u>Assignment</u>
I. Introduction			
1	Mar 28	The Magic of Markets	• read Course Syllabus • read Lee on Market Efficiency • read Hayek
II. Firm-level Analysis			
2	Mar 30	Introduction to Financial Statement Analysis	• Watch two pre-assignment videos and bring annotated notes to class. • Additional reference (read if needed): Healy & Palepu: Chapter 5
3	Apr 4	Cash Flow Analysis & Capital IQ Tutorial	• In-class work session; bring laptops (and make sure you are pre-registered for Capital IQ before class) • Pre-read & prepare for Case 1 (material TBD)

4	Apr 6	Cash Flows and Market Multiples	• **DUE: Case 1**
			• If time permits:
			  - Read *"Measuring Wealth"*
			  - Watch the two SCF videos

5	Apr 11	Residual Income Model (RIM – Part 1)	• Pre-assignment: Must watch the 2 videos on RIM valuation before class. • Bring laptop and Lec4&5 Handout to class.
6	Apr 13	Residual Income Model (RIM – Part 2)	• Bring laptop to class • Bring prior lecture handouts to class • **DUE: Case 2**

7	Apr 18	Choosing the Right Valuation Approach	• Bring Lec 6 handout
			• Further references:
			- 4 Supplemental Videos on *"Implied Cost of Capital"*
			- Article: "*Choosing the Right Valuation Approach*"
			- Article: *"Toward an Implied Cost of Capital"*
8	April 20	Quality of Earnings	• read "Enron 101", "Media Vision"
			• If you have time, read: Beneish (1999); Beneish, Lee, Nichols (2013)

II. Quantitative Stock Selection

Class	**Date**	**Topic**	**Assignment**
9	April 25	Introduction to Portfolio123	• Register at www.portfolio123.com, and go through first 8 pages of P123-Intro Note. Alternatively, watch the 30-min P123 intro video (But I think you will find it easier to go through the Intro Note).
			• Read *Greenblatt.* In particular p.127-143.
			• **Due: Case 3**
			• [Further Reference: *QV.* Chap 1 & 2]
10	Apr 27	What works on Wall Street?	• read *WWOW.* Focus on Chaps 1-4, 21, 27 and 28; just skim the other chapters.
			• **Due: Case 4**
11	May 2	Value Investing: Bridging Theory and Practice	• read as time permits: *"Lee and So (2015 – Chapter 4"*
			• Start working on Case 5 (in class)
			• [Further Reference: *QV*, Chap 7 and 8; and *WWOW*, Chap 6-11, 15]

12	May 4	Momentum-based strategies	• Watch: *"Momentum Strategies" videos* • Further References (in course packet): *"Fusion Investing"* *"Price Momentum and Trading Volume"* *"Value and Momentum Everywhere"*
13	May 9	Short-Selling Essentials	• read Stefanini, Chap 3: "Short-Selling" • read Fabozzi, Chap 2: "Mechanics of the Equity Lending Market" • Further References: - *"Prophets or Bears?"* - *"In Short Supply"* • **DUE: Case 5**
14	May 11	Conversations with a short-seller	• Pre-readings will be distributed in class or via Canvas • **DUE: Final (half-page) project proposal for a detailed company analysis**
15	May 16	Recent advances in momentum strategies	• pre-readings will be distributed in class or via Canvas

III. Portfolio Management & Trading

16	May 18	Introduction to Active Portfolio Management	• Follow the Pre-reading assignment, and read excerpts from Chap 5 & 6 of "Active Portfolio Management"
17	May 23	From private to public equity	• Guest lecture: Dan Rasmussen and Team from Verdad Capital • Pre-reading material TBD • **DUE: Case 6**
18	May 25	Introduction to Barra Risk Model	• Watch: 2 videos on Barra Risk Models; Download Barra Risk Model (Material TBD)
19	Jun 1	Barra + Personal Investing 101	• Finish Barra software; • Wrap-up lecture • **Due: Final Project (by 10:30 am)**

Final Group Project
Your group project is an important part (40%) of your course grade. It is intended to help you integrate/synthesize what you have learned during this class. This project consists of two parts. A short half-page team proposal for Part II (a detailed analysis of a single firm) is due on **May 11th**, and the final project is due by **10:30 am on June 1st**.

Part I: A Quantitative Trading System (20%)

In the first part, your group is charged with designing a quantitative trading system, implementable in Portfolio 123. A complete trading system consists of a Stock Ranking Algorithm, plus a Simulation (with specific Buy and Sell rules)

Standardized Parameters for Simulation:
- This can be either a long-only portfolio, or a market-hedged portfolio with an $x\%$ short position in the S&P500 as a hedge ($0 < x \leq 100$).
- The long-side should consists of _at least_ 20 reasonably liquid positions
- Mktcap $\geq$ 200; close(0) $\geq$ 2; Avgdailytot(20) $\geq$ 200000; PctAvgDailyTot(20) < 5
- Assume initial capital of $1 million, slippage of 0.5%, and zero commission fee.
- Back-test performance for the entire (Max) period <u>and</u> for the most recent 5 years.
- Back-test performance excluding "Covid months" (i.e., 3/2020 to present).

Deliverables:
- An Executive Summary of your guiding design principles and performance results.
- A detailed description of your Ranking system, with justification for your design and input choices. As support, include screenshot(s) of the ranking system with all branches and functions ($f(x)$) showing.
- A detailed description of your Simulation settings, with justifications. As support, include screenshots of: (1) Simulation Summary Page, (2) Trading System Settings, (3) Holdings-Allocation graphs; (4) Performance-Stats (5Y and Max). Each group should report one set of Simulation results using the "Standardized" parameters.
- After you have done the standardized simulation, you may do <u>additional</u> tests that relax these parameters and perhaps better showcase your strategy. Note that if you are running a hedged portfolio (picking individual stocks on both the long and the short side), you may need to report backtest results using the Screener tool. <u>These Screener backtests would be in addition to, not instead of, your Simulation work.</u>

Model Evaluation Criteria:
Your trading system will be judged on the basis of four criteria:

1. <u>Sensibility</u>: Do the variables/signals in your model make sense? Can you provide an ex ante rationale for their inclusion? If you have based your model on prior research, have you properly interpreted the research?
2. <u>Completeness</u>: Does it showcase your understanding of the range of investment ideas covered in this course?
3. <u>Efficacy</u>: How well does your trading system perform? What is its Sharpe ratio? Maximum drawdown? Turnover? How sensitive is the performance of the model to minor parameter perturbations (e.g. number of stocks; frequency of rebalancing)?
4. <u>Inventiveness</u>: Does your overall design exhibit innovation and originality?

Part II. Detailed Analysis of One Company (20%)
In the second part of the project, your group will prepare a detailed analysis of a company. Select a firm in which you have a particular interest (perhaps as a potential employee, or perhaps because it was identified as a Long or Short candidate by your stock screen). Assess its attractiveness as an addition to a hedge fund specializing in US equity. Present your findings in the form of an Analyst Recommendation (Buy, Sell, or Hold).

Your project should demonstrate evidence of **detailed financial analysis of firm data**. Integration of tools and concepts acquired in this and other courses (e.g., financial ratio and cash flow analyses, forecasting, alternative valuation techniques, quality of earnings assessment, etc.) will enhance your grade. Your project should also include some form of "benchmarking," that is, comparison to other similar firms or circumstances.

Your final company report should be <u>no more than</u> **20 pages**, including tables, graphs, and references. This page limit applies only to the Detailed Company Analysis portion of the final project (not the Quantitative Stock Screen).

You should submit a brief half-page proposal on or before 10:30 am, **May 11th** detailing: (1) group membership, (2) which firm you are planning to study, and (3) why you chose this firm. Your final written projects are due at <u>10:30 am on</u> **Thursday, June 1st, 2022**.

Thematic coherence is important. After you have done some preliminary analysis, settle on a "theme" or "thesis" for your project. Ask yourself, what is "the story" for this firm? If Business Week did a feature article on this firm, how would the headline read? Try to formulate your thesis concisely, in the form of a single sentence, question or phrase. When you write the report, try to marshal your facts in support of this overall thesis.

Report Evaluation Criteria:
Your company analysis will be judged on the basis of the following criteria:

1. Objective   Max. Grade
   - Clearly Defined?   2
   - Interesting?   2
2. Analysis
   - Appropriate?   3
   - Sufficient?   3
   - Accurate?   3
   - Creative/Elegant?   3
3. Conclusion
   - Consistent?   2
   - Persuasive?   <u>2</u>
                  Total   <u>20</u>